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Contact with the Mentally Ill and Perceptions of How Dangerous They Are*

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Jones et al. (1984) proposes that contact between a "marked" and an "unmarked" person will modify the preconceptions each has about the stigmatized condition and about its impact on subsequent social interaction. To test this notion, we used two general population samples—one drawn from Macomb, Illinois (N=153) and the other from Cincinnati, Ohio (N=152)—and found a statistically significant inverse association between contact with mental patients' perceptions of how dangerous they are. We find that increased contact is associated with reduced fear among the old and the young, the educated and the less educated, and males and females. Two explanations are possible: (1) contact reduces fear; or (2) perceptions of danger influence the extent to which individuals interact with the mentally ill. We show that when contact is generated by external circumstances so that pre-existing attitudes are unlikely to have brought it on, contact is associated with reduced fear. We interpret this as consistent with the conceptual scheme offered by Jones et al. The implications are optimistic in that former patients may be able to influence attitudes of those they interact with. We note, however, changing others' attitudes may prove problematic in a number of ways for former patients. Finally we indicate some possible policy implications that our results suggest.

Since empirical investigations of the social distance experienced by mental patients first appeared nearly three decades ago (Cumming and Cumming 1957; Whatley 1958), social scientists have undertaken numerous studies assessing public attitudes toward those who have undergone psychiatric treatment (see Rabkin 1980 for a review). One consistent finding is that individuals who have had contact with the mentally ill are less likely to endorse social distancing responses towards them (Brockman and D'Arcy 1978; Chin-Shong 1968; Phillips 1963; Trute and Loewen 1978). A plausible explanation for this finding is that contact decreases fear of the mentally ill; patients are thus perceived as less dangerous.

"Perceived dangerousness" as a salient variable has been highlighted in a number of studies. Nunnally's (1961) influential study found that the adjectives "unpredictable" and "dangerous" were characteristic of public attitudes toward the mentally ill. Chin-Shong (1968) formulated a theory of "threat," which he tested from data collected in the Washington Heights section of New York (cf. Dohrenwend and Chin-Shong 1967). He demonstrated that "perceptions of dangerousness" functioned as major intervening variable between sociodemographic factors and social distancing responses. More recent inquiries reaffirm the importance of perceptions of dangerousness. Rabkin (1980) reported that only 17 percent of the respondents in a 1975 community survey agreed with the statement, "mental patients are not dangerous." Using a vignette experiment which varied labeling status (former mental hospital patient versus hospitalized for a back problem), Link, Cullen, Frank and Wozniak (In press) found that when the person described in the vignette was not labeled a former mental patient, beliefs about the dangerousness of the mentally ill were irrelevant and did not effect a measure of social distance. In sharp contrast, when the person in the

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vignette was labeled a mental patient, respondents who perceived patients as dangerous showed higher levels of social distance. Finally, in a review and theoretical exploration of "social stigma," Jones, Farina, Hastorf, Markus, Miller and Scott (1984) asserted that "marked persons" (their term for a potentially stigmatizing social designation) always seem to pose some threat, and that "danger," in its many forms, may be the most fundamental characteristic of interactions between the "marked" and the "unmarked."

Despite the salience of "dangerousness" in the studies cited above, the origin of stereotypes of dangerousness has received little systematic inquiry (Jones et al. 1984). We address this imbalance by examining one possible origin of beliefs about dangerousness of contact with the mentally ill.

CONCEPTUAL-THEORETICAL SCHEME

A starting point for understanding interactions between a marked person and an unmarked person is with the expectations of those involved (Jones et al. 1984). Initial expectancies are influenced by social definitions conveyed through the press, television, jokes, and important others (Jones et al. 1984; Scheff 1966). One such finding comes from Gerbner's (1980) study of prime time television dramas. He found that characters designated as mentally ill were more likely to be violent (73%) than characters not so designated (40%). Consistent with Jones et al. expectancies derived from sources like TV help to shape the character of initial contact.The person and the situation either is consistent or inconsistent with initial expectations. If contact continues, both expectations and subsequent interaction become part of a mutual feedback system (Jones et al. 1984).

Jones et al. have proposed a scheme for understanding how initial, culturally derived expectancies about a marked person affect subsequent interactions, and how interaction leads to revised expectancies of that particular individual. The contact and perceived dangerousness association suggests that interaction with someone treated for a psychiatric disorder may change not only the expectancies about that person, but about all current or former mental patients. This means that a person who has had contact with one former mental patient is likely to be less fearful when he or she interacts with a second. One implication is that this reduction in fear could lead to less strained interactions and facilitate the integration of mental patients into community life. If, however the effect of perceived dangerousness is so strong that it causes deep fears, contact may be strenuously avoided. This explanation reverses the causal direction: it is not contact which reduces perceived dangerousness, but perceived dangerousness which reduces contact. Clearly the latter interpretation alters reasoning about the social psychological processes involved in relationships between mental patients and nonpatients. Given the ambiguities this alternative introduces, a strategy for investigating its explanatory power is important.

It would seem that the ideal research design would be before-after experiment with subjects assigned randomly to contact or no contact groups. Although this design strengthens internal validity, it precludes the study of types of contact that cannot be manipulated. For example, a spouse, neighbor, or coworker cannot be randomly assigned to the condition of a severe mental disorder to study the effects of contact with this person on the attitudes of significant others. Yet, knowledge of such types of contact carries considerable theoretical value because they may be potent determinants of public attitudes. Conceiving and implementing an experiment, moreover, requires choosing a type of contact to investigate. Given the many possibilities, it is advantageous to conduct carefully designed nonexperimental studies that can give clues about theoretically important types of contact to study in an experiment. For these reasons we have developed a strategy that uses nonexperimental survey data.

THE STRATEGY

Our strategy for investigating contact with the mentally ill and perceptions of how dangerous they are, involves examining types of contact. In particular, we are interested in whether a community member chooses the contact or whether the contact is imposed because of external circumstances. For example, an individual can have contact with the mentally ill because he or she chooses to do volunteer work with them. Alternatively, one can be exposed to a coworker who one had no part in hiring.

Depending on which explanation is applied, one would make contrasting predictions about a correlation between type of contact and perceptions of

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dangerousness. If the correlation arises because individuals with more favorable attitudes allow or actively seek contact with the mentally ill, one would expect a correlation only when the contact is a matter of choice. Contact determined by external circumstances would be unrelated to perceptions of dangerousness, because regardless of an individual's attitudes the interaction could not be avoided. However, if the correlation arises because contact with the mentally ill produces more favorable attitudes, one would expect the correlation to be present irrespective of whether the contact was chosen or brought about by conditions outside the individual's control. Table 1 shows these predictions in tabular form.

METHODS

Our interest in the association between contact and perceived dangerousness developed in the context of a study conducted in Macomb, Illinois in 1980. Although undertaken for other purposes, this study contained questions about contact with psychiatric patients and attitudes about how dangerous they were. At the time of questionnaire construction, we had not thought about testing the causal direction between contact and perceived dangerousness and did not ask questions for this purpose. As a result, we conducted a second study in Cincinnati, Ohio, which included more specific questions.

Samples

In the Macomb study, a simple random sample of 300 community residents was selected from a telephone directory. Chosen individuals were sent a letter by mail from one of the investigators on their university letterhead explaining the study. Self-addressed, stamped return envelopes were provided. After follow-up, 153 usable questionnaires—51 percent of the 300 initially sent—were obtained. Compared to census figures for Macomb, women are overrepresented in our sample (63% as opposed to 52% reported in the census). The mean age of the sample (48.9) closely corresponds to the mean age of the population it was drawn from (48.3). Finally, the Macomb respondents were more likely to have graduated from high school than the census population (84.2% versus 68.5%).

We made an effort to improve the representatives of our sample in the Cincinnati study. To minimize the tendency of women to respond more frequently, we included instructions specifying the preferred sex of the respondent for a particular household. Thus in a random half, we asked for a male adult and in the rest for a female adult to complete the questionnaire. In addition, we took extra steps to increase the response rate by including two follow-ups and providing a $1 "token of appreciation." Of the 240 respondents contacted, 152 (63.3%) responded. Fifty-three percent of the respondents were women. The mean age was 47.6, and the mean years of education was 13.5. Age and sex composition for the sample corresponded closely to the 1980 census for the Cincinnati area. Our sample was more educated than the general population, however (33% of the population opposed to 53 percent of our sample pursued at least some education beyond high school). It is important to note that since stereotyped images of mental patients are generally more pronounced among the less educated (for a review see Rabkin 1980), one potential consequence of underrepresenting this group is to have

TABLE 1. Predictions about the Association Between Contact with the Mentally Ill and Perceptions of How Dangerous They Are

	PREDICTION ABOUT THE ASSOCIATION BETWEEN CONTACT AND PERCEIVED DANGEROUSNESS WHEN:	
Explanation of Contact and Perceived Dangerousness Association	Contact Can Be Chosen By the Individual	Contact Is Due To Circumstances Beyond the Individual's Control
Pre-existing favorable attitudes lead individuals to contact the mentally ill	significant	no association
Contact leads individuals to have favorable attitudes	significant	significant

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excluded those with more fearful and rejecting attitudes.

Measures

Frequency distributions of the items measuring types of contact are reported in Table 2. As is evident, the items with identical wording produced very similar results across the two samples with one exception: Cincinnati residents were more likely to have visited a mental hospital. Items 3 and 4 were reworded in the Cincinnati study in order to specify work in a mental health facility rather than the previous, more general question about having "worked with" the mentally ill. This wording change probably accounts for the difference between the Macomb and Cincinnati samples on these questions. It is important to note that respondents' reports of "knowing someone who was hospitalized in a mental hospital," are consistent with other studies. Brockman and D'Archy (1978) found that 84 percent of respondents from two towns in Saskatchewan knew a patient or former patient, while Trute and Loewen (1978) reported a figure of two-thirds for respondents from Winnipeg, Canada. Our figures, 74.5 percent and 72.4 percent are roughly consistent with these two estimates.[1]

TABLE 2. Percentage of Respondents Replying "Yes" to Items About Contact with the Mentally Ill in Macomb (N = 153) and Cincinnati (N = 152) Samples

	% Yes Macomb	% Yes Cincinnati
1. Have you ever known a person who was hospitalized in a mental institution?	74.5	72.4
2. Have you ever worked for pay or done volunteer work with people who have been hospitalized for a mental illness?	22.2	23.0
*3. Do you have any friends who work for pay with people who have been hospitalized for a mental illness?	43.1	20.4
*4. Do you have any friends who do volunteer work with people who have been hospitalized for a mental illness?	28.9	11.2
5. Have you ever visited an agency in a community where former mental patients are given job training?	15.7	14.5
6. Have you ever been in a mental hospital as a visitor?	43.1	52.6
7. Have you ever visited a mental health clinic or mental health center?	35.9	34.0

* The wording of these two items difffered in the two studies. The table reports the wording for the Macomb study. In the Cincinnati study we changed the items to read, "Do you have any friends who work for pay in a place where the mentally ill are cared for?" and "Do you have any friends who do volunteer work in a place where the mentally ill are cared for?"

Using the seven items in Table 2, we constructed an overall measure of contact by summing the items. The internal consistency reliability of this measure is .70 in the Macomb sample and .73 in the Cincinnati sample.

For the measurement of "perceived dangerousness,"[2] we used five items (see Appendix 1) asked in the identical fashion in the Macomb and Cincinnati studies. The items were scored using a six-point Likert format ranging from strongly agree (=6) to strongly disagree (=1). These items were developed as part of a project designed to update Cohen and Struening's Opinions About Mental Illness (OMI) scale (Cohen and Struening 1962). In pilot work, items were written to tap a number of constructs, one of them being perceived dangerousness. Unit weighting was used to score the measure of perceived dangerousness, and internal consistency reliabilities of .83 and .82 were achieved in the Macomb and Cincinnati samples respectively.

RESULTS

In reporting our results, we begin at the broadest level, showing the relationship between amount of contact with the mentally ill and perceptions of how dangerous they are believed to be. We then systematically present refinements that are designed to develop a more complete understanding of the nature of this association.

The Magnitude and Generalizability of the Association Between Contact and Beliefs About the Dangerousness of the Mentally Ill

In both the Macomb (−.37) and Cincinnati (−.33) samples, there is a substantial zero-order

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correlation between our seven item measure of number of contact types and perceived dangerousness of mental patients.[3] This is consistent with other studies which have demonstrated a bivariate association between contact and attitudes towards patients (Brockman and D'Arcy 1978; Chin-Shong 1968; Phillips 1963; Trute and Loewen 1978). Table 3 presents two sets of multiple regression analyses that help refine our understanding of the bivariate result.[4] The first of these suggests that the association between perceived dangerousness and contact cannot be explained by sociodemographic variables that previous research has consistently found to be related to attitudes towards the mentally ill (Rabkin 1980). While age (Macomb $r = .47$, $p < .001$; Cincinnati $r = .43$, $p < .001$) and education (Macomb $r = -.39$, $p < .001$; Cincinnati $r = -.28$, $p < .001$) are significantly associated with perceived dangerousness in both samples, contact remains highly significant even when these variables are controlled.

The second set of regression analyses in Table 3 presents information bearing on the generalizability of the association between contact and perceptions of dangerousness. Is the association present in the young and the old, among males and females, in the highly educated as well as those with less education? This is tested by entering cross-product terms between contact and sociodemographic variables into the regression equation. If adding these variables increases the amount of variance explained, it would indicate interaction between the variables and would suggest that the association is not constant across these groups. For both the Macomb and Cincinnati studies, however, we find little evidence for such interaction. First, none of the cross-product terms in Table 3 are individually significant. Further, the values of the R^2 for the equations with the cross-product terms are not significantly greater than those R^2 for the equations without them ($F_{3,145} = .262$, $p > .05$ in Macomb; $F_{3,143} = .748$, $p > .05$ in Cincinnati).[5] This means that there are no strong differences in the association of contact and perceptions of dangerousness across these social groups. The more types of contact one has had, the less dangerous he or she believes the mentally ill to be, regardless of whether such a person is old or young, well educated or not so well educated, male or female.

TABLE 3. Additive and Interaction Multiple Regression Models Showing the Effects of Contact with the Mentally Ill on Perceptions of How Dangerous They Are in the Macomb and Cincinnati Studies

	Macomb Sample (N = 153)				Cincinnati Sample (N = 151)[+]			
	Regression Coefficients in Additive Model		Regression Coefficients in Interactive Model		Regression Coefficients in Additive Model		Regression Coefficients in Interactive Model	
	Unstandardized (Standard Errors)	Standardized	Unstandardized (Standard Errors)	Standardized	Unstandardized (Standard Errors)	Standardized	Unstandardized (Standard-Errors)	Standardized
Age (in years)	−.019***	.383	.018***	.358	.024***	.374	.022***	.348
	(.003)		(.006)		(.005)		(.007)	
Sex (1 = male, 2 = female)	.192	.093	.338	.163	−.079	−.037	−.353	−.165
	(.142)		(.251)		(.156)		(.248)	
Education (in years)	−.047*	−.148	.031	−.098	−.024	−.063	−.027	−.070
	(.025)		(.041)		(.031)		(.048)	
Contact	−.936***	−.251	.131	.036	−1.132***	−.275	−2.796	−.680
	(.280)		(1.932)		(.298)		(2.423)	
Contact × Age			.003	.047			.005	.065
			(.013)				(.019)	
Contact × Sex			−.355	−.167			.865	.389
			(.513)				(.603)	
Contact × Education			−.044	−.204			.003	.011
			(.081)				(.115)	
	$R^2 = .350$		$R^2 = .353$		$R^2 = .275$		$R^2 = .286$	
	Adjusted $R^2 = .332$		Adjusted $R^2 = .322$		Adjusted $R^2 = .255$		Adjusted $R^2 = .251$	

* $p<.10$. ** $p<.05$. *** $p<.01$.

[+] For this analysis, the N for the Cincinnati sample is 151 instead of 152 due to 1 missing value on the perceived dangerousness scale.

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Thus far, we have shown that contact has a highly significant and relatively constant association with perceptions of how dangerous the mentally ill are. Given these results, closer scrutiny of the types of contact involved in producing this association is in order.

Types of Contact and the Association with Perceptions of Dangerousness

According to our strategy, if there is a causal effect of contact on perceived dangerousness, types of contact that are thrust upon individuals by external circumstances should be significantly correlated with perceived dangerousness. Alternatively, if the overall association is produced by reverse causation, these correlations should be substantially smaller and near zero.

Our first test employs both the Macomb and Cincinnati samples. Taking the seven contact items presented in Table 2, we categorized the items in terms of how likely they were to have been brought on by beliefs about the dangerousness of the mentally ill. Clearly, a decision to work with the mentally ill (item 2), and to visit a job training center (item 5), mental hospital (item 6), or mental health clinic (item 7) are types of contact that are voluntary. As such, they could be influenced by a respondent's perceptions of how dangerous-harmless the mentally ill are. On the other hand, knowing a person who has been hospitalized (item 1) and having friends who either work for pay (item 3) or do volunteer work (item 4) with the mentally ill are types of contact which are *less likely* to be under an individual's control. In general, an individual's attitudes about the dangerousness of the mentally ill do not influence whether an acquaintance, coworker, or friend enters a mental hospital. Nor does such an individual have much control over whether his/her friends work for pay or do volunteer work with the mentally ill. Nevertheless, as we will see, the inference that the individual did not bring on the contact can be made more definite than these relatively unrefined questions allow. For now, then, we simply argue that these types of contact are substantially less likely to involve choice than types of contact like those involving visiting or volunteer work.

Table 4 presents the point-biserial correlations between these types of contact and the perceptions of dangerousness measure. As Table 4 shows, the correlations for types of contact that are less likely to be under an individual's control tend to be significant and of roughly equal magnitude to those types of contact which an individual actively chooses. Using multiple regressions procedures (Rindskoff 1984) we tested this more formally. In this procedure, two regression models are compared with respect to how much variance they explain. The first model contains two variables: (1) contact that is likely to be chosen (formed by summing Item 2, Item 5, Item 6, and Item 7) and (2) contact that is unlikely to be chosen (formed by summing Item 1, Item 3, and Item 4). The second model contains only one variable which is the sum of the seven contact items. In line with Rindskoff's (1984, p. 597) procedures, the first model allows the types of contact which are less likely to be chosen by an individual to have a different effect from those which are more likely to be chosen. By contrast, since a summed variable is used, the second model constrains the two types of contact to be equal in their effect on perceived dangerousness. If the first model explains significantly more variance than the second, it would suggest that contact that is chosen has a different effect from contact that is not. However, the results suggest that this is not the case, since the values of the R^2 for the first model (Macomb = .3498; Cincinnati = .2910) are not significantly greater than those R^2 for the second (Macomb = .3496; Cincinnati = .2747) in either sample (Macomb $F_{1,149} = .050$, $p < .05$; Cincinnati $F_{1,148} = 2.981$, $p < .05$). These findings support the interpretation that contact reduces perceptions of dangerousness since all types of contact have roughly equal effects.

Refinements of the Strategy for Assessing the Effects of Contact on Perceived Dangerousness

To improve the quality of our inference concerning the effect of contact on perceptions of dangerousness, we asked a number of more specific questions in the Cincinnati study. Each specification is designed to increase certainty that the individual could not have chosen the contact based on pre-existing beliefs about the dangerousness of the mentally ill. The refinements begin with a question about the respondent's closest association, if any, to a person who had been a patient in a mental hospital. We used probes to determine whether the contact was likely to have been a matter of choice. The first group we formed (N = 19) consisted of those respondents who reported that a first degree relative (father, mother,

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sister, brother, or child) had been hospitalized for mental illness. The closeness of these relations represent contact that clearly cannot be chosen based on pre-existing attitudes. Our second group consisted of more distant relatives, including relationships that may have resulted from marriage (N = 29). Here it might be argued that respondents who feared the mentally ill might avoid marrying into families with a mentally ill member. Therefore we asked our respondents whether they knew the person before he or she was hospitalized. The three individuals who reported that they had were excluded from this group as a conservative step. Our third group consisted of individuals whose closest association with a hospitalized person was a friend or work acquaintance (N = 14). Our reasoning was that work is one domain of daily life in which a person is likely to have contact with others who are not of his or her choosing. To substantiate the inference, we asked these respondents whether they had a part in hiring the person. The two individuals who indicated that they had were excluded from this group. Our fourth group consisted of friends and acquaintances from other domains of life (N = 43). We reasoned that pre-existing beliefs might well be involved in initiating contact if the respondent became friends with the person after he or she had been hospitalized. However, if two individuals are friends or acquaintances before the hospitalization, it is unlikely that pre-existing attitudes about the dangerousness of the mentally ill could have had any part in producing the contact. As a result, we excluded from this group the eleven individuals who reported becoming a friend or an acquaintance after the person had been hospitalized. This resulted in four groups with contacts unlikely to have resulted from pre-existing beliefs. Respondents who did not fall into one of these groups reported (1) never having known an individual hospitalized for mental disorder (N = 42) and (2) individuals that we excluded from the four groups in order to strengthen inferences about the conditions of contact (N = 20).[6] We also consider these two groups in our analysis.

Table 5 presents the mean and the standard deviation of the perceptions of dangerousness scale in each of the six groups described above. Note that the overall F-test from the one-way analysis of variance indicates that membership in the six

TABLE 4. Means and Standard Deviations (in parentheses) of Scores on the Perceived Dangerousness Scale by the Seven Contact Items in the Macomb and Cincinnati Samples

	Macomb Mean Dangerousness Score for Respondents Answering:		Cincinnati Mean Dangerousness Score for Respondents Answering:		Point Biserial Correlations	
	Yes	No	Yes	No	Macomb	Cincinnati
CONTACT THAT IS LIKELY TO HAVE ARISEN BECAUSE OF BELIEFS ABOUT THE DANGEROUSNESS OF THE MENTALLY ILL						
Worked for pay or did volunteer work	2.82 (1.04)	3.26 (.96)	2.74 (1.00)	3.41 (1.03)	−.19**	−.27***
Visited a job training facility	2.43 (.83)	3.30 (.96)	2.66 (.99)	3.36 (1.05)	−.32***	−.23***
Visited mental hospital	3.01 (1.10)	3.28 (.88)	3.17 (1.06)	3.38 (1.08)	−.14*	−.10
Visited a mental health clinic or center	2.81 (1.00)	3.36 (.93)	3.00 (1.01)	3.40 (1.08)	−.27***	−.18**
CONTACT THAT IS UNLIKELY TO HAVE ARISEN BECAUSE OF BELIEFS ABOUT THE DANGEROUSNESS OF THE MENTALLY ILL						
Knowing a person who was once hospitalized	3.04 (.98)	3.52 (.94)	3.07 (1.00)	3.77 (1.08)	−.21***	−.29***
Having friends who work for pay	2.94 (.93)	3.33 (1.01)	2.73 (.88)	3.41 (1.07)	−.19**	−.26***
Having friends who do volunteer work	2.79 (.96)	3.30 (.97)	2.74 (1.08)	3.33 (1.05)	−.23***	−.18**

* p<.10. ** p<.05. *** p<.01.

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TABLE 5. One-Way Analysis of Variance Showing the Effect of Contact That Is Unlikely to Have Been Chosen on Perceptions of Dangerousness of the Mentally Ill

CELL-NUMBER OF CASES, MEANS, AND STANDARD DEVIATIONS			
Group	Number of Cases	Mean Perceived Dangerousness Score	Standard Deviation
1. First degree relatives	19	3.08*	.84
2. Relatives respondent knew before they were hospitalized	26	3.24*	1.08
3. Coworkers that respondent had no part in hiring	12	2.62*	1.18
4. Friends and acquaintances respondent knew before they were hospitalized	32	3.05*	.98
5. Respondents who knew a hospitalized mental patient but were excluded from Groups 1–4	20	3.16*	.97
6. Respondents who reported never having known a person hospitalized in a mental hospital	42	3.77	1.08

Analysis of Variance	Degrees of Freedom	Sum of Squares	F-Value	P-Value
Between groups	5	18.1	3.44	.006
Within groups	145	152.8		

* Group mean is significantly different than mean of group (6) at $p<.05$.

groups is significantly related to the perceptions of dangerousness. Inspection of group means indicates that the significant effect is largely caused by the difference between the sixth (no contact group) and the five groups who have had some kind of contact. We tested this formally using contrast coding (Cohen and Cohen 1975; Kerlinger and Pedazur 1973). Contrasts reflecting differences between groups one through five were not significant ($F_{4,145} = .802$; n.s.) but the contrast reflecting the difference between group six and the other groups was highly significant ($F_{1,145} = 15.332$; $p < .001$). These results provide tentative support for the idea that contact reduces perceptions of dangerousness rather than the reverse, since several different types of contact that are unlikely to be chosen are related to lower levels of fear. The proposition can be further substantiated by probing the relationship between these forms of contact and perceptions of dangerousness controlling for other variables.

In the one-way analysis of variance reported above, an important issue not addressed centers around multiple types of contact. In other words, can we be certain that the effects of the unchosen contact reported in Table 5 is independent of chosen types of contact? First, it is important to examine the nature of the relationship between the types of unchosen and chosen contact. If the unchosen contact is more fundamental, starting a causal chain that leads to forms of contact that are chosen, then the lack of independence is not a severe problem to the inference that contact reduces fear. Rather, if important at all, the chosen contact would be conceptualized as an intervening variable explaining why chosen contact has the effect that it has. The real threat would occur if chosen contact operated as a confounding variable, increasing unchosen contact and decreasing fear. However, this threat is not plausible because chosen contact (i.e., visiting a mental hospital, visiting a mental health clinic, doing volunteer work, etc.) cannot cause a relative, friend, or coworker to become mentally ill and enter a hospital. Instead, it is more likely that unchosen contact leads to forms of contact that are chosen. With this reasoning in mind, it is important to note that there is a strong relationship between unchosen and chosen contact. For example, we find that 89.5 percent (17/19) of the first degree relative group, 65.4 percent (17/26) of the other relative group, 58.3 percent (7/12) of the coworker group, and 65.6 percent (21/32) of the friend and acquaintance group, had visited a mental hospital compared to only 14.3 percent of those (6/42) who reported that they had never known a mental patient ($\chi^2 = 39.1$, $p < .001$).

Given the strong relationship between chosen

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and unchosen forms of contact and the fact that chosen contact is likely to result from unchosen contact, an examination of the effect of unchosen contact on perceived dangerousness independent of chosen contact represents an extremely conservative test of our hypothesis.

Table 6 presents regression analyses that show the effect of unchosen contact in the presence of several controls. In the table, the four unchosen contact groups are combined into one group reflected by a single dummy variable. We did this because the one-way analysis in Table 5 indicated that none of these groups was significantly different from any one of the other three. Because they may have chosen their contact, the individuals who were excluded from these groups were considered a separate group in the regression analysis just as they were in the one-way analysis of variance. In the regression analysis in Table 6 the effect of being in this group is reflected in a second dummy variable. The first column of Table 6 shows the effect of these two variables uncontrolled for other factors. The second column shows the same relationship with a control for types of chosen contact. This variable is the sum of affirmative responses to questions about (1) visiting a mental hospital, (2) visiting a mental health clinic, (3) visiting a job training center, or (4) working for pay or as a volunteer in a place where the mentally ill receive treatment. The third column adds control for age and education, since these factors are related to perceptions of dangerousness in our sample and have been found to be related to attitudes towards mental illness in other studies. Further, since unchosen contact groups are constructed from a question about one's closest relationship to a hospitalized person, we entered a control for the number of other hospitalized persons respondents knew.

As Table 6 shows, the dummy variable reflecting exposure to unchosen forms of contact remains significant irrespective of the control variables entered. These results suggest that contacts unlikely to have been determined by preexisting attitudes are nevertheless associated with lower levels of perceived dangerousness. This

TABLE 6. Multiple Regression Showing the Effect of Unchosen Contact on Perceptions of the Dangerousness of Mental Patients and Former Mental Patients Holding Constant Chosen Contact, Age, Education, and the Number of Former Patients Known by the Respondent (N = 151)

Variable	Unstandardized Regression Coefficients in Model Without Controls	Standardized Coefficients in Parentheses	Unstandardized Regression Coefficients in Model With a Control for Potentially Chosen Contact	Standardized Coefficients in Parentheses	Unstandardized Regression Coefficients in Model With Controls for Potentially Chosen Contact, Age, Education, and the Number of Patients Known	Standardized Coefficients in Parentheses
Experienced unchosen contact (1 = yes, 0 = no)	−.717***	(−.332)	−.671***	(−.310)	−.547**	(−.253)
Knew a former patient but excluded from unchosen contact group (1 = yes, 0 = no)	−.611*	(−.194)	−.609*	(−.194)	−.416	(−.132)
Engaged in contact that could have been chosen (count of yes-no responses to four items—see text)			−.110+	(−.138)	−.105+	(−.132)
Age (in years)					.024***	(.376)
Education (in years)					.032	(−.082)
Number of patients ever known (other than patient respondent was closest to)					−.031	(−.048)
	$R^2 = .087$ Adjusted $R^2 = .075$		$R^2 = .106$ Adjusted $R^2 = .088$		$R^2 = .286$ Adjusted $R^2 = .256$	

+ p<.10. * p<.05. ** p<.01. *** p<.001.

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means that we have found evidence to support the notion that contact reduces fear.

It must be noted that the kinds of contact we have investigated are ones that are not particularly amenable to change. We cannot manipulate family, friendships, and work contact with an eye to reducing people's perceptions of dangerousness. Also these types of contact are relatively close ones, involving primary group relationships. Must this sort of intimacy be present in order for perceptions of dangerousness to be decreased? In what follows, we examine the issue of whether types of contact amenable to change are independently associated with reduced levels of fear.

The Effect of Types of Contact that Are Amenable To Change

In general, chosen contact—visiting a mental hospital, doing volunteer work and so on—can be brought about through intervention. It is of interest, therefore, that in Table 6 the variable indicating chosen contact shows a modest relationship to perceived dangerousness (beta = .132, p = .068) even in the model that controls for other variables.

Another assessment that does not involve a direct tie to a mentally ill person comes from a question we asked Cincinnati respondents about friends who work where the mentally ill are cared for (N = 38). Specifically, we asked whether their friends spoke about their work with the mentally ill very often (=5), fairly often (=4), sometimes (=3), almost never (=2), or never (=1). We found a statistically significant association (r = −.32, p < .05) between how much they spoke with their friend and their perceptions of how dangerous the mentally ill are. However, since a major reason for having friends who work with the mentally ill could be that one works with mentally ill himself/herself, we decided to run our analysis among those who had never worked with the mentally ill (N=16). This is important since our interest is in contact that does not involve close ties with the mentally ill and might, therefore, suggest types of contact useful for interventions. Interestingly, we found the association between the frequency of talking to a friend about work with the mentally ill and perceived dangerousness to be even stronger in this subgroup (r = −.46, p < .05). These results suggest that indirect contact, via talking to an experienced friend, may reduce fear of the mentally ill.

The results reported above show that the more contact one has had, even if not intimate, the less one fears the mentally ill. While causal status of these types of contact are less clear since they can be brought on by pre-existing attitudes, the data nevertheless indicates that the association between contact and perceived dangerousness exists even when closer contact is held constant. This suggests that by increasing opportunities for the public to become familiar with patients and former patients, attitudes can potentially be changed.

DISCUSSION

Our results have shown the number of types of contact with the mentally ill is associated with decreased levels of fear across sociodemographic categories of age, sex and education within both the Cincinnati and Macomb samples.

Further, this association occurred even when the contact was unlikely to have resulted from choice. This finding increased our confidence that it is contact per se and not pre-existing favorable attitudes towards contact that produces the observed associations. Finally, we showed that even forms of contact which do not involve intimate contact with a mentally ill person are associated with reduced levels of fear. In what follows, we explore the implications of these results for (1) the theoretical scheme of Jones et al. (1984), (2) the adjustment of former mental patients to community life and (3) the formulation of policy aimed at reducing the public fear of the mentally ill. One qualification must be kept in mind when considering these implications.

Our measures of contact assess several but certainly not all types of contact. For instance, we have not assessed the impact of contact with the mentally ill homeless, a type of contact that in recent years has become more frequent. If the homeless mentally ill are thought of as "former mental patients," superficial contact with them on the street may not only induce fear of them in particular but also in general. In this regard it is important to note that an extensive body of research on race relations has examined the impact of contact on prejudiced attitudes and beliefs. Consistent with our study, this research has tended to find that contact ameliorates negative attitudes and is associated with changes in stereotyped

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beliefs (Stephan 1985). At the same time, this research has gone on to study contingencies in this association investigating the effects of such factors as the relative social status levels of interactants and whether the contact occurs in contexts of cooperation or conflict (cf. Cook 1978). With this in mind, future work investigating contact and attitudes towards the mentally ill would do well to expand the number of types of contact considered and to specify the situational contingencies that might modify the importance of such contact. For now, we caution that our findings about contact should not be generalized to all types of contact or all types of situations. With this caveat in mind we turn to a consideration of some potential implications of our results.

Implications for a Theoretical Explanation of the Contact-Perceived Dangerousness Association

Jones et al. (1984) proposed that initial interactions between marked and unmarked persons are affected by expectancies each actor brings to the situation. Based on the initial interaction experience between the two individuals, these initial expectancies may be revised. New expectancies are brought to the next interaction, revised again, and so on. With this scheme in mind, our results are consistent with the following explanation of the contact-perceived dangerousness association.

In the absence of direct contact with the mentally ill, the public is influenced by cultural stereotypes conveyed through jokes, newspaper accounts, and television dramatizations. Since the mentally ill are often portrayed as dangerous and unpredictable (Gerbner 1980; Scheff 1966), members of the public who have had little contact are thus influenced by these stereotypes and perceive the mentally ill to be relatively dangerous (cf. Rabkin 1980). When individuals are exposed to former mental patients, there is, as our results indicate, a significant tendency to revise these beliefs, not only toward the particular individual contacted, but toward former mental patients in general.

This explanation is far more optimistic than the one we would have offered had we found evidence that attitudes were fixed and that the association between contact and perceived dangerousness arose because those with favorable pre-existing attitudes allowed or sought out contact and those who were fearful avoided it. Such a finding would have suggested that cultural stereotypes, learned early in life, are relatively immutable and that a "marked" individual has little control over what others think of their stigma.

Implications for Former Patients' Social Adjustment

The results reported above suggest that patients and former patients can play an active role in improving a situation in which others are fearful of them. As Gove (1982) and Huffine and Clausen (1979) have argued, family and close friends will be affected by the behavior of the patient, and if this behavior disconfirms stereotypes, they are unlikely to continue to react toward the former patient from a standpoint of fear. The label "mental patient" recedes into the background and other characteristics become relevant.

This optimistic note needs to be qualified. Each time a former patient engages in a new contact such as a dating relationship or a new job, it may be necessary to neutralize negative stereotypes and convince others that he/she is "safe." Outside of the context of pre-existing personal ties, this process can involve a great deal of uncertainty. Do others know about a history of mental disorder? If so, what does it mean to them? Are they being kind because they feel sorry for an unfortunate person? Are they aloof because they are afraid? These uncertainties may make new contacts burdensome or perhaps even threatening and stressful for former patients. Thus, while our results suggest that former patients can affect perceptions of dangerousness, this process may be problematic for them. This troubling observation leads to a final issue—the policy implications of our results.

Implications for Policy

In considering policy implications, it is important to recognize that critics of the "labeling" or "societal reaction" perspective have published an influential body of research, which suggests that efforts aimed at changing the public's attitudes toward the mentally ill are unnecessary if not misplaced. Some critics assert that public attitudes are already positive, reflecting "tolerance" and "understanding" rather than "rejection" (Crocetti and Lemkau 1963; Crocetti, Spiro, and Siassi 1974). Consistent with this view, Weinstein's

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(1979; 1981; 1983) literature reviews portray the attitudes of mental patients and former mental patients as more positive than one would expect if "rejection" at the hands of others were an important problem. Finally, other critics of the labeling approach contend that public attitudes, whatever their valence, are not a salient consideration in the stigmatizing process. They claim that the major source of negative responses are not the stereotypes held by the public but the nature and severity of the labeled person's disturbed behavior (cf. Clausen 1981; Huffine and Clausen 1979; Kirk 1974; Lehman, Joy, Kreisman, and Simmens 1976; Schwartz, Meyers, and Astrachan 1974).

Recent work has challenged such conclusions and has offered a different view about the importance of interventions for changing public attitudes. For example, Link and Cullen (1983) provide evidence suggesting that the relatively benign attitudes Crocetti et al. speak of may reflect the public's learning of the "deal" conception but not less accepting "deeper" attitudes. Furthermore, Link, Cullen, Struening and Shrout (1986) have collected data showing that a large proportion of both patients and nonpatients anticipate that the mentally ill will suffer social rejection. Finally, the notion that patients are rejected only to the extent that they behave inappropriately has been rebutted in experimental (cf. Link et al., in press; Page 1977) and in nonexperimental work (Link 1982).

Recognizing that the importance of "public attitude interventions" ultimately rests with an evaluation of these differing views, we embark on a consideration of some policy-relevant issues that may arise if attempts are made to change public attitudes. We begin with the ambiguities patients may face if they attempt to change the attitudes of others.

If patients find new contacts problematic they may seek to avoid them or enter them armed with a firm policy that they must conceal their stigma (Angermeyer, Classon, Majcher-Angermeyer, and Hoffman 1985; Angermeyer, Link, and Majcher-Angermeyer in press; Goffman 1963; Jones et al. 1984). To the extent that these forms of coping are adopted, some of the forms of contact we have studied become less frequent. Members of the public either do not know that they are engaged in interaction with a former patient, if patients choose and successfully manage concealment, or else contact is actually reduced if patients choose to withdraw. If contact does reduce perceptions of dangerousness as we have argued, these coping strategies may have the ironic effect of maintaining higher levels of fear among the nonpatient public than if such strategies were not employed. By pursuing strategies designed to protect themselves from unwanted responses, public attributions of dangerousness and other stereotyped responses are maintained.

Given the potential influence of coping mechanisms which serve to maintain stereotypes, it is important to note that advocacy groups consisting of former patients, family members, and other supporters have grown dramatically in recent years. While we have no relevant data here, it seems likely that these groups can offer support to patients who wish to reject concealment and withdrawal as ways of coping, as well as public education and political action to modify stigmatizing responses. To the extent that this occurs, contact with nonpatients is likely to increase leading to positive changes in attitude.

If we shift our focus from patients to the nonpatient public, our data are more directly relevant to policy. Had the analysis supported the notion that contact is determined by pre-existing attitudes about dangerousness rather than the other way around, interventions designed to increase contact would be uncalled for. The reason, of course, is that under such a scenario contact would have no causal effect on beliefs about dangerousness. The fact that we found support for the opposite conclusion—that is, that contact reduces perceptions of dangerousness—indicates that public beliefs about the dangerousness of the mentally ill can be influenced by policy interventions. This conclusion is further supported by the finding that types of contact that are amenable to change, and do not require a close personal relationship to a mentally ill person, are also associated with reduced levels of fear. These findings indicate that if reductions in the public's fear of the mentally ill is a policy goal, increasing contact between patients and nonpatients can have a desirable effect.

In assessing the best ways to intervene, it is important to keep in mind that aggressive interventions have, at times, failed. For example, in Cumming and Cumming's (1957) classic study, *Closed Ranks*, public attitudes did not change as a result of the public education interventions and, in the end, the mayor of the small city studied suggested that it would be best if the study team left town. This suggests that it would be wise to test interventions on a small scale before instituting

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larger policy initiatives. Moreover future studies should seek to uncover natural "interventions" that appear to reduce fear in people's everyday interactions. For example we found that the amount of time spent discussing a friend's work with the mentally ill is associated with the level of fear one feels. If more such "natural" interventions are uncovered, planned interventions which mimic seemingly successful aspects of day-to-day life can be constructed by policy-oriented researchers. Since natural process interventions would be grounded by research findings they would be more likely to be accepted by the public and therefore more likely to succeed. We close by suggesting that it would be wise for future research to continue to probe the association between the public's level of contact with the mentally ill and their attitudes towards them. Doing so will increase our understanding of the determinants of public attitudes towards the mentally ill and suggest the potentially fruitful avenues for effecting change in them.

NOTES

1. If our estimates of the amount of contact are biased, it is likely that they are biased in the direction of increased contact. We know that our sample of respondents are more educated than the census population and Dohrenwend (1969) has shown that higher status persons report more contact.
2. Our measure of "perceived dangerousness" refers to more than just the threat of physical violence. Also included are items which directly tap the theme of unpredictability. Item 2, for example, asks whether a salient characteristic of mental patients is "that you can't tell what they will do from one minute to the next." As Goffman (1971, pp. 238–313) has pointed out, the unpredictability of one person often upsets another's feeling of safety by disrupting the comforting "normal appearances" of a social setting. This close connection between perceived unpredictability and fear is our rationale for including these items in our measure of "perceived dangerousness."
3. We checked the relationship between our measures of contact and perceived dangerousness for evidence of curvilinearity and found none. For each increase in the number of types of contact, there is a corresponding decrease in perceived dangerousness.
4. We report the results from our two samples separately for two reasons. First, as indicated, two of the contact items had slightly different wording in the two studies, leading to different response frequencies. Since these two items are central to several analyses, we decided it would be better to report our findings separately. The other reason is that separate reporting appropriately underscores the fact that the findings replicate in an independent sample drawn in a different city at a different time.
5. In the presence of the cross-product terms formed to test for interaction, the variable for contact is not significant. This does not mean that contact is unimportant. Rather, as Cleary and Kessler (1982) indicate for the general case, it reflects the effect of contact at the zero point of the variables involved in the cross-product terms (in this case age, sex, and education). As a result, the interpretation of a variable in the presence of cross-product terms involving it is often not meaningful. What is important is the test of the interactive versus the additive model which shows for both cities that the additive model fits the data as well as the interactive model. As a result, the effect of contact should be interpreted in the context of the additive model.
6. In addition to the 16 people included in this group for reasons described, we also included one person who said his closest contact was himself/herself. This person, who scored 3.6 on the dangerousness scale, did not fit clearly into any of our other groups. We also placed three individuals who indicated that they had known a former patient but did not provide information on the nature of their relationship to this person in this group. We did this as a conservative step since we could not be certain about the nature of the contact involved.

Appendix 1
Perceived Dangerousness Items

1. If a group of former mental patients lived nearby, I would not allow my children to go to the movie theatre alone.
2. One important thing about mental patients is that you can't tell what they will do from one minute to the next.
3. If I know that a person has been a mental patient, I will be less likely to trust him.
4. The main purpose of mental hospitals should be to protect the public from mentally ill people.
5. Although some mental patients may seem all right, it is dangerous to forget for a moment that they are mentally ill.

(Strongly Agree = 6, Agree = 5, Not Sure But Probably Agree = 4, Not Sure But Probably Disagree = 3, Disagree = 2, Strongly Disagree = 1)

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